Safety Review Committee
March 18, 2005
10:00 AM – 12:00 PM

Minutes

Members Present
Joel Ager, Michael Banda, John Bercovitz, Paul Blodgett, Phil Hugenholtz, Richard Kadel, Mack Kennedy, Don Lucas, Robert Mueller, Karen Ramorino, Peter Seidl, Linda Smith, Scott Taylor, Weyland Wong, Hisao Yokota
Members Absent
Ben Feinberg, Ken Fletcher, Augusto Macchiavelli, Linfeng Rao
Others Present
John Chernowski, Richard DeBusk, Eugene Lau, Phyllis Pei, Donna Spencer, Otis Wong

Comments from the Chair

The minutes of the February meeting were approved.

The February 15, 2005 draft of the Traffic Safety Program – Bicycle Safety Policy was distributed and discussed. The intent is to ask for voluntary compliance with the provisions of the policy that are not required by other regulations. Small bicycle safety related gifts, such as reflectors, may be given as an incentive to the first people who register their bicycles with the Site Access office. The bicycle permit may be used as a gate pass. Security will not prevent access by bicyclists who have LBNL badges, but no bike permit, or adults riding bicycles without helmets. Bicycles may be parked inside offices or labs if they do not block access to emergency equipment or building access/egress routes. Committee members would like to encourage LBNL to provide more bicycle racks to encourage compliance. A vote was taken on implementation of the policy, with 8 committee members voting in favor, 1 opposed, and 6 abstaining.

There was a discussion as to how Integrated Functional Appraisals (IFAs) could be better integrated with the MESH reviews. The IFAs are technical reviews of locations with hazards by EH&S professionals. The MESH review is a peer review of Management of Environment, Safety, and Health. If the IFA is conducted early in the year, before the MESH review for each division, then the information from the IFA can be used by the MESH team. The reviews would be conducted separately, but some of the documentation EH&S and the Division Safety Coordinators put together before the reviews could be used by both review teams and might save some time. Currently, IFAs are scheduled every 3 years. If the IFAs are put on the same schedule as MESH, some divisions would go longer than 3 years between IFAs. Divisions should be catching any unauthorized work during their annual Self-Assessment. Coordinating the IFA and MESH reviews would allow the MESH teams to focus on management issues. The proposed change in IFA scheduling should be discussed with the Division Safety Coordinators.

The DOE Berkeley Site Office has started sending representatives to all LBNL safety committee meetings. Committee members would like to discuss the appropriate level of DOE participation in SRC meetings.

MESH Updates

- EH&S (Richard Kadel) – The review is scheduled for May. The proposed review dates are May 10 and 12, but the dates could change if there are scheduling conflicts.
- Genomics (Scott Taylor) – The review is scheduled for August.
- Life Sciences (Joel Ager) – Letters have been sent to division management to announce the review. The review schedule is to be determined.
- Directorate (Michael Banda) – There will be a pre-review meeting with David McGraw in May. The review schedule is to be determined.
- Computing Sciences (Weyland Wong) – The Computing Sciences Division Safety Coordinator, Martin Dooly, is planning to retire in April. Weyland is working with Martin to plan the review.

Electrical Safety Program Assessments

EH&S Safety Manager Richard DeBusk discussed how LBNL has responded to the SLAC arc blast accident by accelerating planned improvements to our electrical safety program. DOE is sending a team of electrical safety experts to audit the programs at the laboratories. They are scheduled to audit LBNL during the week of May 16. In preparation, the Electrical Safety Subcommittee and a team of LBNL and external experts (Richard DeBusk, Otis Wong, and Keith Gershon, with David Allen from DOE Oak Ridge observing) performed assessments of our program. (Electrical Safety Self-Assessment). They found a high degree of awareness of safety among our electrical workers. They also noted some program elements that need upgrading:

- Roles and responsibilities are not clearly defined;
- Chapter 8 of Pub 3000 needs to be updated to reflect current regulations and actual field practice;
- Some electrical safety events continue to occur;
- The selection of arc flash PPE is limited;
- The Appendix B Energized Electrical Permit does not provide all the information required by NFPA 70E;
- Communication and flow-down of electrical safety requirements to contractors should be improved;
- Methods used to provide assurance of the effectiveness of the electrical safety program are inadequate;
- Flash boundaries are not uniformly applied; and
- The requirements to designate qualified electrical workers vary. Supervisors need specific criteria.

Most of the opportunities for improvement had been previously identified. EH&S and the Electrical Safety Subcommittee are working to put together an action plan. In April, a DOE-BSO team will validate the report and may recommend additional corrective actions.

Electrical Safety Subcommittee chair Bob Mueller discussed a prioritized list of 8 corrective actions needed to come into compliance with NFPA 70E:

1. **Revise Energized Work Permit form;**

   There are three categories of electrical work: (1) de-energized work, (2) energized diagnostic and measurement work, and (3) energized manipulative work. NFPA 70E requires a documented pre-job safety briefing by the supervisor for energized diagnostic and manipulative work over 50 Volts. An energized work permit is required for manipulative work. The Energized Work Permit form is being revised to meet NFPA 70E requirements. The permit requires justification as to why the work must be done energized. In most cases, the Electrical Safety Engineer will help the applicants find a way to accomplish the job without working on energized equipment. There have been 24 applications since the SLAC accident, and all of them have found a way to work de-energized. The permit must be signed by the Electrical Safety Engineer, Department Manager, Division Director, and Deputy Laboratory Director. Contractors will also need permits (see 6 below). It will be possible to obtain a standing permit for a type of work over a defined period, not to exceed one year.

2. **Energized Work Permit guidance;**

   Supervisors will need guidance on how to fill out the permit application form. Some supervisors requesting work are not familiar with NFPA 70E. There need to be better definitions of who should complete and sign the form. Not all divisions have Department Managers. Is the division the electrical worker's home division, or the matrix division requesting work?

3. **Training;**

   LBNL will be providing NFPA 70E training on May 2-3 for all qualified electrical workers and their supervisors. Twelve people will be trained and qualified to teach the 70E course. These trainers will also be able to provide assistance to permit applicants.

4. **Clarify worker qualifications;**

   The Job Hazards Questionnaire needs to be revised to define the levels of training required for different types of electrical work. CPR is now mandatory for qualified electrical workers.

5. **OSHA label, procedure requirements;**

   Our electrical panels must have American National Standards Institute (ANSI) approved labels.

6. **Subcontractor communications;**

   Requirements for vendors and service contractors need to be established up front in service contracts. The plan is to hold custodian divisions responsible for ensuring the compliance of contractors they hire. Some researchers use electrical equipment but are not knowledgeable about the safety hazards involved in working on the equipment and do not feel qualified to provide pre-job safety briefings. The 12 NFPA 70E trainers will be able to provide assistance. Service contractors send in different technicians to do work. Some come in from other countries. They charge high hourly rates. We need to be able to set up the permits in advance and provide training quickly.

7. **Accident, incident feedback; and**

   Many people are not aware of the Electrical Safety Subcommittee or who the committee members are. We need to raise awareness to improve feedback from workers. The committee members need to talk to more researchers as well as electrical workers.

8. **Pub-3000 updates.**

   The Electrical Safety Subcommittee is working on a comprehensive update and reorganization of Chapter 8. There will be a draft ready in May for the DOE review. When it is ready to be released, a training session will be provided for researchers and all other interested people. Qualified electrical workers are required to read and sign Chapter 8. There will be a briefing for the Safety Coordinators.

SRC members commented that we need to ensure that UC campus electricians coming to LBNL or doing work for us follow our rules. Graduate students and post-docs coming from campus also need to be made aware of the requirements. The LBNL NFPA 70E trainers will need to provide training. Arc blast hazard area boundaries and the requirement to stay out of the hazard areas needs to be clear to visitors and untrained people. Researchers will need more guidance on the levels of electrical work they can do and the training and PPE required. Guidelines are needed for people who work on network and computing equipment. The SRC requested a revised draft of the Energized Work Permit and instruction sheet for review. Bob Mueller agreed to send out a revised draft for comment the next week.

Some actions will not be completed before the DOE review. LBNL needs to implement critical corrective actions and have a comprehensive action plan and compensating measures in place to address the other findings.

Emergency Preparedness Subcommittee Update

Linda Smith is the chair of the Emergency Preparedness Subcommittee. The subcommittee supports and advises the emergency preparedness program, which is managed by Valerie Quigley, under Dan Lunsford. Their goal is to ensure maximum readiness of the Lab to respond to earthquakes, fires, terrorism, and other emergencies. EP SubComm for SRC 2005.v2

Several steps have been taken recently to improve LBNL's emergency preparedness:

- A Business Impact Analysis consultant helped us plan for recovery from disasters and resumption of operations.
- Information on earthquakes and wildfires has been incorporated into new employee training.
- The Emergency Preparedness web page is being updated.
- Policies are being updated and training opportunities are being increased.
- Student interns update disaster trauma "first aid" kit supplies each summer.
- Emergency pocket guides are available on line or in hard copy.
- A new radio system provides increased range so we can communicate with the Joint Genome Institute and Oakland facilities.
- LBNL participated in the Disaster Resistant California conference.
- New LBNL management has been trained in how to activate and use the Emergency Operations Center.
- Exercises and drills have been held with other agencies.

- The E911 telephone system will provide information on the caller's building and room location to emergency responders if the call comes from an LBNL landline phone. (Cell phone 911 calls go to the California Highway Patrol system in Vallejo. By the end of the year, cell phone service providers are required to provide locations by triangulation. As an alternative, LBNL cell phone users can call the Blackberry Gate or Firehouse.)
- Emergency rescue box supplies are checked annually by Security. Some boxes are being replaced and relocated.

Some subcommittee members have retired or left LBNL and need to be replaced. They are interested in having more representation from researchers. The subcommittee was asked to provide updates to the SRC whenever they have new or important items to discuss. It was suggested that a reminder be placed in Berkeley Lab Today about how to use cell phones to report emergencies.

EH&S Updates (TRC 03-05 Update)

EH&S Director Phyllis Pei reminded us that LBNL did very well on accident statistics last year, having the second lowest Total Recordable Case (TRC) rate and the lowest rate of days absent, restricted, or transferred (DART) of the Office of Science labs. We have already had 16 reportable cases this year, so everyone will need to take extra care to maintain our record. Ergonomic injuries are the most common, including falling on stairs, slipping on water left on the floor, and computer workstation use. Repetitive motion injuries can be prevented or reduced if symptoms are reported early. EH&S can provide ergonomic coaching. Unsafe walking surfaces need to be reported. The Committee suggested EH&S publicize how to report unsafe conditions, and the types of injuries that are occurring. The DOE goal is for all the labs to achieve accident rates equivalent to the best 10^{th} percentile of the most similar industry classification. Particular challenges at LBNL are our roadway conditions and an aging workforce. Construction work has not contributed much to our accident rate.

Phyllis developed a flow chart that illustrates how LBNL's EH&S management elements interact to achieve Integrated Safety Management.

DOE Berkeley Site Office has requested early notification of EH&S incidents. Phyllis is drafting an agreement on the notification process. No one at LBNL has been punished for reporting an injury, and we want to be sure people are not discouraged from reporting. Peter Lichty is working on a new safety recognition program.

The meeting was adjourned at 12:03 PM
Respectfully submitted,
Patricia M. Thomas, SRC Secretary